Special Issue on Web Intelligence and Virtual Communities. Editorial.

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Web Intelligence and Virtual Communities.

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Web Intelligence is a multidisciplinary area dealing with exploiting data and services over the Web, to create new data and services using Information and Communication Technologies (ICT) and Artificial Intelligence (AI) techniques. The link to Networking and Virtual Organisations (VOs) is obvious: the web is a set of nodes, providing and consuming data and services; the permanent or temporary ties and exchanges in-between these nodes build the so-called virtual organizations; and the ICT and AI techniques contribute to the process and automate (or partly automate) communication and cooperation processes. One could also speak about Virtual Communities (VCs), slightly putting more focus on the topic or the shared objectives of the participants (nodes, users), or about Virtual Enterprises (VEs), emphasizing then more generally the structure in-between node. VCs, VOs, VEs… The point is not about the vocabulary, rather it is about research projects that tend to increase and improve the use of the Internet to make people communicate with each other in the real life, by means of advanced networked numeric tools and software.

Many concerns should be addressed in the Web Intelligence and Virtual Community area; the papers selected for this special issue address some of these concerns, namely:

- The services and coordination of services in the topic addressed by van't Klooster, van Beijnum, Pawar, Sikkel, Meertens and Hermens. The ageing of the western population (including Japan and Australia), the individualistic way of life, and the cost of care services, constitute strong intencives to provide support for elderly, for instance, by participating in communities where they can find friendship, or get support at appropriate times from their neighbours, relatives or medical care providers.

- The information extraction and the exploitation within VCs of the context data collected from mobile sensors is the issue addressed by Lopez, Shuzo and Yamada. They pursue the concrete example of people suffering from the metabolic syndrome and who can be supervised and effectively supported by homogeneous or heterogeneous groups of healthcare professionals (physicians, psychologists, nurses, etc.). The processes used depend on the context of each of the participants in the VC.

- The Communication protocols dedicated to VCs is the issue addressed by King and Kawash. An XML-based publish/subscribe protocol as been implemented and is described in their paper. Their objective is to encourage information exchanges and interconnections between virtual communities.

This selection of papers covers a representative excerpt of the contribution of the Web Intelligence field for Virtual Communities. This is however a broad field addressing other issues such as multi-agent and knowledge modelling, communities of objects, privacy preservation or social and psychological aspects. Thus, structural and coordinated efforts are carried out at different organizational levels to address these different issues. Internationally this is conducted for instance in the Web Intelligence Consortium, and in France we can cite the Rhône-Alpes regional project "Web Intelligence", as well as the creation of specialized MSc. degrees in Web Intelligence (e.g. University of Saint Etienne).

While many aspects are still under investigation and others need to be taken into consideration, Web Intelligence is situated to play a vital role in the next generation internet applications. Indeed, it is promising to permit more streamlined experience for users and organizations, relying on data analysis and AI techniques that tap into the mine of data collected throughout the communication and cooperation processes.

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